

On a covering group theorem and its applications

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Abstract

Let $p: X \rightarrow G$ be an n -fold covering of a compact group G by a connected topological space X . Then there exists a group structure in X turning p into a homomorphism between compact groups. As an application, we describe all n -fold coverings of a compact connected abelian group. Also, a criterion of triviality for n -fold coverings in terms of the dual group and the one-dimensional Čech cohomology group is obtained.

Keywords

Algebraic coverings, Algebraic equations with coefficients in function algebras, Covering groups, Criterion of triviality for n -fold coverings, Dual group, n -fold coverings of compact groups, One-dimensional Čech cohomology group